Douglas Coates

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RESEARCH POSITIONS

Postdoctoral Researcher, FAPESP funded position under the supervision of Ali Tahzibi, Universidade de São Paulo, São Carlos, Brazil — Jul. 2023 - Present

Postdoctoral Research Associate, EPSRC funded position under the supervision of Mark Holland, The University of Exeter, Exeter, United Kingdom — Apr. 2022 - Apr. 2023

Postdoctoral Researcher, under the supervision of Sylvain Crovisier, Université Paris Saclay (CNRS), Paris, France — Sep. 2021 - Mar. 2022

EDUCATION

PhD. Mathematics, under the supervision of Mark Holland and Dalia Terhesiu, — Oct. 2016 - Jan. 2021

MSci Mathematics, University of Bristol — Sep. 2012 - Sep. 2016

PUBLICATIONS AND PREPRINTS

[1] Douglas Coates and Stefano Luzzatto. "Persistent Non-statistical Dynamics in One-Dimensional Maps". In: *Communications in Mathematical Physics* 405.4 (Apr. 2024), p. 102. ISSN: 1432-0916. DOI: 10.1007/s00220-024-04957-0. URL: https://doi.org/10.1007/s00220-024-04957-0.

[2] Douglas Coates, Stefano Luzzatto, and Mubarak Muhammad. "Doubly Intermittent Full Branch Maps with Critical Points and Singularities". In: *Communications in Mathematical Physics* 402.2 (2023), pp. 1845–1878. DOI: 10.1007/s00220-023-04766-x. URL: https://doi.org/10.1007/s00220-023-04766-x.

[3] Douglas Coates. "Semi-Stable Laws for Intermittent Maps". 2021. URL: https://ore.exeter.ac.uk/repository/handle/10871/124410.

[4] Douglas Coates, Mark Holland, and Dalia Terhesiu. "Limit Theorems for Wobbly Interval Intermittent Maps". In: *Studia Mathematica* 261.3 (2021), pp. 269–305. ISSN: 0039-3223. DOI: 10.4064/sm200427-21-11. URL: https://doi-org.uoelibrary.idm.oclc.org/10.4064/sm200427-21-11.

VISITING POSITIONS

Visitor of *Katrin Gelfert*, **Universidade Federal do Rio de Janeiro**, Rio de Janeiro, Brazil — Jun. 2023

Visitor of *Lorenzo Diaz*, **Pontifícia Universidade Católica do Rio de Janeiro**, Rio de Janeiro, Brazil — May 2023

Visitor of *Ali Tahzibi*, **University of São Paulo, ICMC**, São Carlos, Brazil — Nov. 2022

Visitor of *Marcelo Viana*, **Instituto de Matemática Pura e Aplicada**, Rio de Janeiro, Brazil — Oct. - Nov. 2022

Visitor of *Stefano Luzzatto*, **The Abdus Salam International Centre for Theoretical Physics**, Trieste, Italy — May - Dec. 2022

Visitor of *Stefano Luzzatto*, **The Abdus Salam International Centre for Theoretical Physics**, Trieste, Italy — Feb. - Aug. 2021

TEACHING

Teaching positions

Teaching Assistant, Universidade de São Paulo (ICMC), São Carlos, Brazil	Jul. 2023 - present

Responsibilities: lecturing
Courses: ergodic theory (graduate course, partial), Stable Laws in Dynamical Systems (specialised mini-course)

Academic Program Manager and Senior Tutor, International Mathematics Master (ICTP programme in Pakistan),	Jul. 2020 - Jan. 2022

Responsibilities: problems classes, lecturing, course preparation, administration, exam writing, supervision of master's thesis
Courses: commutative algebra, real analysis and measure theory, differential geometry, probability, dynamical systems, functional analysis, differential equations

Teaching Assistant at ICTP, Trieste, Italy	Feb. - Aug. 2021

Responsibilities: problems classes, homework marking
Courses: dynamical systems and ergodic theory (master's level)

Teaching Assistant at the University of Exeter, Exeter, UK	2016 - 2020

Responsibilities: problems classes, exam marking, homework marking
Courses: mathematical structures (1st year), mathematical methods (1st year), signals series and transforms (2nd/3rd year), stochastic processes (2nd/3rd year), metric spaces and topology (3rd/4th year)

Short courses

Limit theorems in dynamical systems using transfer operator methods - 6 hour mini-course joint between PUC-UFRJ	Jun. 2023
Markov-chains and the Perron-Frobenius theorem - 6 hour online preparatory mini-course for the "VII Escola Brasileira de Sistemas Dinâmicos"	Oct. 2023

SELECTED RESEARCH TALKS

Conference on Dynamics and Finance: from KAM Tori to ETFs - ICTP	Oct. 2023
IMPA	July 2023
EDAI meeting - PUC	May 2023
University of Exeter	Apr. 2023
Universidade de São Paulo	Nov. 2022
Jangada Dinamica Conference - Universidade Federal do Ceará	Nov. 2022
Université Paris Saclay	Sep. 2021
University of Bristol	Oct. 2019
University of Exeter	Jan. 2018

EVENTS ORGANISED/CO-ORGANISED

Probabilistic methods for non-stationary dynamical systems - *University of Exeter*	April 2023

LANGUAGES

English - Fluent,   Italian - Fluent,   Spanish - Proficient,   Portuguese - Intermediate.